CLAIMS

1. A method for scheduling a decoding process of coded data blocks (61) transmitted over a wireless link (20) in a communication network (21) **characterized** by the steps of:

storing a coded data block (61) in a queue (71) if all decoders of a cluster (72) of iterative decoders are unavailable,

decoding the coded data block (61) in a decoder of said cluster; and

returning any coded data block being unsuccessfully decoded to said queue; and

combining said unsuccessfully decoded data block with a corresponding retransmitted coded data block (62).

2. The method according to claim 1, wherein the iterative decoders of the cluster (72) are arranged in parallel.

3. The method according to claim 1 or 2, wherein the transmission between a physical layer (36) of a stack of protocols in a communication apparatus (1) and a physical layer (46) of a stack of protocols in a communication network (21) is controlled by a protocol (51) requiring an ACK/NACK-report of the transmission within a predetermined time limit.

4. The method according to claim 3, wherein a NACK-report is transmitted to the transmitter of the data block (61) if the time limit is reached before the stored data block (61) is moved to any of the decoders of the cluster (72).

5. The method according any of the claims 3-4, wherein an ACK-report is transmitted to the transmitter of

the data block (61) if said block (61) is successfully decoded in any of the decoders of the cluster (72) within the time limit.

6. The method according to any of the claims 3-5, wherein the NACK-report is transmitted to the transmitter of the data block (61) if said block (61) is unsuccessfully decoded in any of the decoders of the cluster (72) within the time limit.

7. The method according to any of the claims 3-6, wherein the NACK-report is transmitted to the transmitter of the data block (61) if the decoding of said block (61) in any of the decoders of the cluster (72) is not finished within the time limit.

8. The method according to any of the claims 3-4 or 6-7, wherein the data block (61) is moved into the end of the queue (71).

9. The method according to claim 8, wherein the data block (61) being unsuccessfully decoded is combined with a retransmitted data block (62) to a combined data block (63) and stored in the queue (72).

10. The method according to claim 9, wherein the combined data block (63) is processed according to any of the claims 5-11.

11. The method according to any of the proceeding claims, wherein the data blocks (61, 63) are moved from the queue (71) to any of the decoders of the cluster (72) according to a First In First Out (FIFO) principle.

12. The method according to any of the claims 1-10, wherein the data blocks (61, 63) are moved from the queue (71) to any of the decoders of the cluster (72) according to an "oldest data block first" principle.

13. The method according to any of the proceeding claims, wherein the maximum number of iterations in a certain decoder of said cluster is adapted automatically by the CPU 75.

14. The method according to claim 15, wherein the maximum number of iterations is adapted in dependence on the number of blocks (61, 63) being moved directly from the beginning to the end of the queue (71).

15. The method according to claim 15, wherein the maximum number of iterations is adapted in dependence on whether a coded data block (61) to be decoded for the first time or a combined data block (63) is received by said decoder.

16. The method according to any of the proceeding claims, wherein the decoders are activated automatically by the CPU 75 when the bitrate of the received stream of data blocks (61, 62) reaches certain predefined levels.

17. The method according to any of the previous claims, wherein the decoding process of any of the decoders of the cluster (72) is terminated before a maximum number of iterations is reached.

18. The method according to any of the previous claims, wherein coded data blocks (61) are received according to a HARQ (Hybrid ARQ) protocol.

19. An electronic communication apparatus (1) capable of decoding coded data blocks (61) received over a wireless link (20) in a communication network (21), **characterized** in that

the communication apparatus (1) comprises a queue (71), which is adapted for temporarily storing the coded data blocks (61), a cluster (72) of decoders, which is adapted to decode the coded data blocks (61) when any of the decoders of the cluster (72) is available and to return to said queue any coded data block being unsuccessfully decoded by any of said decoders, and a controller (75), which is adapted to combine a coded data block (62) being unsuccessfully decoded with a corresponding retransmitted coded data block (63).

20. The electronic communication apparatus according to claim 19, wherein the decoders of the cluster (72) are arranged in parallel.

21. The electronic communication apparatus according to any of the claims 19 or 20, wherein said apparatus (1) comprises a receiver, which is adapted for receiving the data blocks (61, 62) with a bitrate of up to at least 15 Mbps.

22. The electronic communication apparatus according to any of the claims 19-20 wherein said apparatus (1) comprises a receiver, which is arranged to receive coded data blocks according to a HARQ protocol.

23. The electronic communication apparatus according to any of the claims 19-21, wherein said apparatus (1) is adapted to receive the data blocks (61, 62) according to a protocol requiring a ACK/NACK-report within a predetermined time limit.

24. The electronic communication apparatus according to claim 22, wherein said apparatus (1) is adapted for transmitting a NACK-report to a transmitter of the data block (61) if said block (61) is not moved to any of the decoders of the cluster (72) within the time limit.

24. The electronic communication apparatus according to any of the claims 22 or 23, wherein said apparatus (1) is adapted for transmitting an ACK-report to the transmitter of the data block (61) if said block (61) is successfully decoded in any of the decoders of the cluster (72) within the time limit.

25. The electronic communication apparatus according to any of the claims 22-24, wherein said apparatus (1) is adapted for transmitting a NACK-report to the transmitter of the data block (61) if said block (61) is unsuccessfully decoded in any of the decoders of the cluster (72) within the time limit.

26. The electronic communication apparatus according to any of the claims 22-24, wherein said apparatus (1) is adapted for transmitting a NACK-report to the transmitter of the data block (61) if the decoding of said block (61) in any of the decoders of the cluster (72) can not be finished within the time limit.

27. The electronic communication apparatus according to any of the claims 19-26, wherein said apparatus (1) urther comprises feedback loops (73, 74) between the beginning of the queue (71) and the end of the queue (71), and between the cluster of decoders (72) and the end of the queue (71), and wherein said apparatus (1) is adapted for moving the data block (61) to the end of the queue (71)

when the decoding process is not initiated or successfully completed.

28. The electronic communication apparatus according to any of the claims 19-27, wherein said apparatus (1) is adapted for receiving a retransmitted data block (62), combining the retransmitted data block (62) with a stored data block (61) to a combined data block (63), and storing the combined data block (63).

29. The electronic communication apparatus according to claim 28, wherein said apparatus (1) is adapted to process the combined data block (63) according to any of the claims 24-28.

30. The electronic communication apparatus according to any of the claims 19-29, wherein the queue (71) is provided as a rewritable memory.

31. The electronic communication apparatus according to any of the claims 19-30, wherein a controller (75) of the apparatus (1) is arranged to automatically adapt the number of active decoders when the bitrate of the received stream of data blocks (61, 62) reaches certain predefined levels.

32. The electronic communication apparatus according to any of the claims 19-31, wherein the controller (75) is arranged to adapt the maximum number of iterations of a certain decoder in dependence on the number of blocks (61, 63) being moved directly from the beginning to the end of the queue (71).

33. The electronic communication apparatus according to any of the claims 19-31, wherein the controller (75) is

arranged to adapt the maximum number of iterations of a certain decoder in dependence on whether a coded data block (61) to be decoded for the first time or a combined data block (63) is received by said decoder.

34. The electronic communication apparatus according to any of the claims 19-33, wherein apparatus (1) is further adapted to move the data blocks (61, 63) from the queue (71) to any of the decoders of the cluster (72) according to a First In First Out (FIFO) principle.

35. The electronic communication apparatus according to any of the claims 19-33, wherein the apparatus (1) is further adapted to move the data blocks (61, 63) from the queue (71) to any of the decoders of the cluster (72) according to an "oldest data block first" principle.

36. The electronic communication apparatus according to any of the claims 19-35, wherein the controller (75) is arranged to terminate the decoding process of any of the decoders of the cluster (72) before a maximum number of iterations is reached

37. The electronic communication apparatus according to any of the claims 19-36, wherein said apparatus is a mobile telephone (1).

38. The communication apparatus according to any of the claims 19-36, wherein said apparatus is a communicator, an electronic organizer, or a smartphone.